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ESTIMATING THE COST OF ATRIAL FIBRILLATION IN GREECE

Athanasakis K, Karampli E, Ollandezos M, Kyriopoulos J
National School of Public Health, Athens, Greece

OBJECTIVES: Determine the health care resource use and costs attributable to Atrial Fibrillation (AF) in Greece. **METHODS:** A multi-point data collection procedure, based on patient records of 149 geographically distributed physicians, was used in order to obtain the necessary data for the patient cost model. Patients were categorized according to initial treatment strategy i.e. pharmacological treatment (rhythm control, rate control) and non-pharmacological treatment. Cost categories included costs of consultations, laboratory tests, AF-related medication, anti-thrombotic medication and hospitalization due to AF recurrence, cardiovascular complications or drug-related adverse events. Calculations were based on 2009 fees and prices from a third-party payer perspective. **RESULTS:** A total of 94.5% of treated patients were on a pharmacological strategy (rhythm control: 56.2%, rate control: 38.3%) and the remaining 5.5% had undergone non-pharmacological treatment, mainly catheter ablation (96% of cases). Mean annual direct cost of treatment per patient, was estimated at €3184, €2095 and €6452 for AF patients under rhythm control, rate control and non-pharmacological treatment respectively and at €2947 on average, regardless of treatment strategy. Hospitalizations were the major cost drivers for patients under rhythm control and for those under non-pharmacological treatment accounting for up to 75.9% of total expenses. Laboratory tests were, also, an important cost driver (the major for rate control patients), attributing from 15.5%—50.4%, (36.4% on average) to total costs, followed by anti-thrombotic medication, ranging from 4.4%–18.7% (12.3% on average) and consultations ranging from 3.1%–12.4% (9.1% on average). AF-related medication was the smallest portion of expenses accounting for 1.0%–5.4% (4.2% on average) of total costs, across all groups of patients. **CONCLUSIONS:** Treatment of AF poses a significant health care burden accounting for €275,873,173 annually or 1.3% of health care expenditure in Greece in 2009. Efforts to reduce the main AF cost drivers and hence its economic impact on the health care system, are necessary.

PCV50

THE COST OF ATRIAL FIBRILLATION IN SWEDEN

Davidson T, Husberg M, Janzon M, Levin LÅ
Linköping University, Linköping, Sweden

OBJECTIVES: Atrial fibrillation (AF) is the most common arrhythmic disease in Sweden. Persons with AF have a significant increased risk of stroke and the main treatment is therefore intended to prevent stroke by anticoagulation with warfarin or acetylsalicylic acid. However, new anticoagulation treatments will soon challenge the established treatments and there will be a need to know the cost of AF for cost-effectiveness comparisons. In this study we estimate the cost of AF in Sweden 2010. **METHODS:** All relevant costs are identified, quantified and valued. The focus in the calculation is on the complications (ischemic- and hemorrhagic stroke, gastrointestinal bleedings and other major bleedings) caused by AF and treatments intended to lower the risks for ischemic stroke. a societal perspective is used, and therefore productivity loss caused by morbidity is included. Patients with $CHADS_2 = 1$ or higher are included. **RESULTS:** In Sweden with 9,340,000 inhabitants, there are 118,000 patients with AF and at least one more risk factor of stroke, which comprise 1.26% of the population. Among the patients; 43.3% are treated with warfarin, 28.3% use acetylsalicylic acid and 28.3% are assumed to have no anticoagulation treatment. The cost of AF in Sweden is estimated at SEK 3.4 billion (€354 million and US$439 million) for 2010. This equals SEK 29,000 (€3,023 and US$3,745) per AF patient and year. The highest cost is caused by stroke, the second highest is the cost of monitoring the warfarin treatment. As the prevalence of AF is expected to increase, the AF cost is expected to rise in the future. **CONCLUSIONS:** AF causes high costs for the society. New treatments that could reduce the risk of stroke and be easily administered might have a potential of being cost-effective.

PCV51

THE IMPACT OF ACQUIRED BRAIN DAMAGE IN TERMS OF EPIDEMIOLOGY, ECONOMICS AND LOSS IN QUALITY OF LIFE

Mar J[1], Arrospide A[1], Begiristain JM[2], Larranaga I[2], Oliva J[3]
[1]Hospital Alto Deba, Mondragon, Spain; [2]Government of the Basque Country, San Sebastian, Spain; [3]University of Castilla la Mancha, Toledo, Spain

OBJECTIVES: Patients with acquired brain damage (ABD) have suffered a brain lesion that interrupts vital development in the physical, psychological and social spheres. The objectives of this study were to estimated its incidence and prevalence of ABD, to calculate the associated cost of the care required and finally to assess the HRQL. **METHODS:** A cross-sectional survey was carried out, in order to estimate the incidence of ABD and its consequences in terms of costs and loss in quality of life from the evolution of a sample of patients diagnosed with stroke and TBI. On the other hand, a discrete event simulation model was built that enabled the prevalence of ABD to be estimated. Finally, a calculation was made of the formal and informal costs of ABD in the population of the Basque Country and Navarre (2,750,000 people). **RESULTS:** The cross-sectional study showed that the incidences of ABD caused by stroke and TBI were 61.8 and 12.5 cases per 100,000 per year respectively, while the overall prevalence was 657 cases per 100,000 people. The SF-36 physical and mental component scores were 28.9 and 44.5. The economic burden was calculated to be €382.14 million per year, distributed between 215.27 and 166.87 of formal and informal burden respectively. The average cost was €21,040 per person- year. **CONCLUSIONS:** The main conclusion of this study is that ABD has a high impact in both epidemiological and economic terms as well as loss in quality of life. The overall prevalence obtained is equivalent to 0.7% of the total population. The substantial economic burden is distributed nearly evenly between formal and informal costs. The physical dimensions of quality of life are the most severely affected. The prevalence-based approach showed adequate to estimate the population impact of ABD and the resources needed to compensate the disability.

PCV52

COST OF MANAGING CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION TO MANAGED CARE

Said Q[1], Martin B[1], Joish V[2], Gabriel P[3], Kreilick C[4], Seal B[4], Williamson T[4], Mathai S[5]
[1]University of Arkansas for Medical Sciences, Little Rock, AR, USA; [2]Bayer, Wayne, NJ, USA; [3]Zenith Healthcare solutions, Indianapolis, IN, USA; [4]Bayer Healthcare Pharmaceuticals, Inc., Wayne, NJ, USA; [5]Johns Hopkins University, Baltimore, MD, USA

OBJECTIVES: To estimate direct medical costs and resource use of chronic thromboembolic pulmonary hypertension (CTEPH) patients. **METHODS:** Data were from a managed care claims database (2004–09) using a retrospective cohort design. Criteria to identify CTEPH patients were: >18 years old, >2 claims for PH (ICD-9:416.0, 416.8), with first claim occurring at least 6 months after a claim for pulmonary embolism (PE), >1 claim for right heart catheterization (RHC) or echocardiogram before the second PH claim, and continuously enrolled during the study period. Each CTEPH patient was matched to 1 to 5 controls without CTEPH on age, sex, region and payer type. Per-patient-per-month costs were contrasted between CTEPH patients and controls using Wilcoxon rank sum test. **RESULTS:** A total of 146 cases and 558 controls were identified (mean age 64 yrs, 54.8% female, mean follow up of 22.2 months). Total monthly costs in the period prior to CTEPH diagnosis were higher for CTEPH patients ($3895) than controls ($1177). Most common co-morbidities in CTEPH patients were: Acute pulmonary heart disease (8.7%), symptoms involving respiratory system and other chest symptoms (7.5%), other forms of chronic ischemic heart disease (6.4%). After CTEPH diagnosis, CTEPH patients had significantly higher monthly resource use and costs vs. controls: Total costs $6198 vs. $1579, Outpatient visits 1.2 ($2193) vs. 0.8 ($780), inpatient visits, 2 ($3382) vs. 0.2 ($507), prescriptions 4.2 ($623) vs. 2.8 ($292), all p-values < 0.05. a higher proportion of CTEPH patients had cardiovascular related prescriptions [CCBs (21.2% vs. 18.2%), diuretics (46.6% vs. 29.2%, p = value), oral anticoagulants (56.9% vs. 11.7%), digoxin (8.9% vs. 3.4%), ERAs (3.5% vs. 0.0%)], and procedures [echocardiography (22.6% vs. 4.8%), electrocardiography (43.2% vs. 24.9%), computerized tomography (17.1% vs. 7.5%), using chi-square test all p-values < 0.05, except CCBs. **CONCLUSIONS:** CTEPH patients used more resources vs. controls. Research is needed to identify factors related to increased utilization.

PCV53

THE BURDEN OF ISCHEMIC HEART DISEASES AT A MAJOR CARDIAC CENTER IN RIYADH, SAUDI ARABIA

Alsultan MS[1], Osman AM[1], Al-Mutairi M[2]
[1]King Saud University College of Pharmacy, Riyadh, Saudi Arabia; [2]Prince Sultan Cardiac Centre, Riyadh, Saudi Arabia

OBJECTIVES: Ischemic Heart Disease (IHD) is the leading cause of death worldwide, including in Saudi Arabia. Cost of illness (COI) studies aiming to explore the burden of IHD are missing in Saudi Arabia. Therefore, the objective of this study is to estimate the direct medical costs associated with IHD at Prince Sultan Cardiac Center (PSCC), a major Cardiac referral center in the country. **METHODS:** A prospective COI study was conducted from April 2009 to June 2009 from the PSCC perspective. All patients diagnosed or suspected having IHD at admission were included in the study. They were followed up till discharge or performing CABG or changing diagnosis. Clinical data were extracted from the patient computerized database and combined with the unit cost of services (medication, procedures, bed utilization) to calculate direct medical costs. **RESULTS:** A total of 205 patients were recruited and diagnosed with stable angina (SA) (47.8%), unstable angina (USA) (24.4%), STEMI (19.5%) and NSTEMI (8.3%). Most of the patients were male, Saudi, aged between 40–75 years. 87% of the patients had two or more co-morbidities and 32% of the patients were obese. The average cost is 40,164 SAR/patient (US$10,710). Medication contributed the lowest in the costs (3.2%). ACEI contributed only 0.17% in the total costs. Costs associated to SA, USA, NSTEMI and STEMI were respectively 33,991; 35,107; 46,585 and 58,877 SAR/patient. The lowest hospital length of stay was 6.5 days with SA. The average length of stay increased with the number of co-morbidities from 5.67 (no co-morbidity) to 11.25 (6 co-morbidities). **CONCLUSIONS:** The study shows that IHD is of high economic burden in the Kingdom. Among the 4 types of IHD studied, the resource consumption associated to SA was the lowest in terms of costs and patient hospital length of stay. Co-morbidities increased the hospital length of stay.